



**AMENDMENTS TO THE CLAIMS:**

Please amend the claims as follows:

1. (cancelled)
2. (cancelled)
3. (cancelled)
4. (cancelled)
5. (cancelled)
6. (cancelled)
7. (cancelled)
8. (cancelled)
9. (cancelled)
10. (cancelled)
11. (cancelled)
12. (cancelled)
13. (cancelled)
14. (cancelled)
15. (cancelled)
16. (cancelled)
17. (cancelled)
18. (cancelled)
19. (cancelled)
20. (cancelled)
21. (cancelled)
22. (previously added) A method for finishing a metal article, comprising the steps of:
  - a) placing the metal article in a vibratory finishing apparatus, in combination with:
    - i. a chemical solution capable of reacting with the surface of the metal article to form a blackmode on the surface of the metal article, and
    - ii. a non-abrasive plastic media; and

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- b) agitating the metal article, the non-abrasive plastic media, and chemical solution in the vibratory finishing apparatus so that the non-abrasive plastic media can remove the blackmode from the surface of the metal article, thereby refining the surface of the metal article, after which the blackmode is immediately re-formed by the reaction between the metal article and the chemical solution for further refining by the non-abrasive plastic media.
23. (previously added) The method of claim 22, wherein the vibratory finishing apparatus is operated at 800-1500 revolutions per minute at an amplitude of 1 to 8 millimeters.
24. (previously added) The method of claim 22, wherein the chemical solution is added to the vibratory finishing apparatus at a rate of 0.25-0.4 gallons per hour per cubic foot volume of the vibratory finishing apparatus.
25. (previously added) The method of claim 22, wherein the non-abrasive plastic media has a hardness of about 57 on the Barcol scale.
26. (previously added) The method of claim 22, wherein the non-abrasive plastic media comprises about 50% by weight alumina bonded with an unsaturated polyester resin.
27. (previously added) The method of claim 22, wherein the non-abrasive plastic media has a density of about 1.8 g/cm<sup>3</sup>.
28. (previously added) The method of claim 22, wherein the non-abrasive plastic media has a crystal size of less than 0.9 mm.
29. (previously added) The method of claim 22, wherein the chemical solution comprises a chemical selected from the group consisting of phosphoric acid, phosphates, sulfamic acid, oxalic acid, oxalates, sulfuric acid, sulfates, chromic acid, chromates, bicarbonate, fatty acids, fatty acid salts, and combinations thereof.
30. (previously added) The method of claim 29, wherein the chemical solution further comprises an activator or accelerator selected from the group consisting of zinc, magnesium, iron phosphates and combinations thereof.
31. (previously added) The method of claim 29, wherein the chemical solution further comprises an oxidizer, selected from the group consisting of inorganic oxidizer,

organic oxidizer, peroxides, meta-nitrobenzene, chlorate, chlorite, persulfates, nitrate, nitrite compounds, and combinations thereof.

32. (previously added) The method of claim 29, wherein the chemical is provided as a concentrate, and is diluted with water to prepare the chemical solution, wherein the chemical is diluted to between 5-80% by volume of the solution.
33. (previously added) The method of claim 22, wherein the metal article comprises steel.
34. (previously added) The method of claim 33, wherein the chemical solution comprises phosphates.
35. (cancelled)
36. (previously added) The method of claim 34, wherein the chemical solution is introduced into the vibratory finishing apparatus at a rate of about 0.375 gallons per hour per cubic foot volume of the vibratory finishing apparatus.
37. (previously added) The method of claim 22, wherein the non-abrasive plastic media is cone shaped.
38. (cancelled)
39. (previously added) The method of claim 22, wherein after the surface of the metal article has been refined, a burnishing solution is introduced into the vibratory finishing apparatus.
40. (previously added) The method of claim 22 wherein the metal article comprises brass.
41. (currently amended) The method of claim 40, wherein the chemical solution comprises hydrogen peroxide and is [REM® COPPERMIL 7] maintained at a concentration at about 10% by volume.
42. (previously added) The method of claim 41, wherein the chemical solution is introduced into the vibratory finishing apparatus at a rate of about 0.4 gallons per hour per cubic foot volume of the vibratory finishing apparatus.
43. (cancelled)
44. (previously added) The method of claim 22, wherein the rate of blackmode formation and removal is balanced so that the blackmode is soft enough to allow the non-

abrasive plastic media to remove the blackmode from the surface of the metal article and finish the metal article to an Ra of less than or equal to 2.5 microinches.

45. (previously added) A method for finishing a metal article, comprising the steps of:
- a) placing the metal article in a vibratory finishing apparatus, in combination with:
    - i. a chemical solution capable of reacting with the surface of the metal article to form a blackmode on the surface of the metal article, and
    - ii. a non-abrasive metal media that is not reactive with the chemical solution; and
  - b) agitating the metal article, the non-abrasive metal media, and chemical solution in the vibratory finishing apparatus so that the non-abrasive metal media can remove the blackmode from the surface of the metal article, thereby refining the surface of the metal article, after which the blackmode is immediately re-formed by the reaction between the metal article and the chemical solution for further refining by the non-abrasive metal media.
46. (previously added) The method of claim 45, wherein the non-abrasive metal media is selected from the group consisting of stainless steel media, titanium alloys, nickel-chromium alloys and combinations thereof.
47. (previously added) The method of claim 45, wherein the vibratory finishing apparatus is operated at 800-1500 revolutions per minute at an amplitude of 1 to 8 millimeters.
48. (previously added) The method of claim 45, wherein the chemical solution is added to the vibratory finishing apparatus at a rate of 0.25-0.4 gallons per hour per cubic foot volume of the vibratory finishing apparatus.
49. (previously added) The method of claim 45, wherein the shape of the non-abrasive metal media is selected from the group consisting of pins, diagonals, ballcones, and mixtures thereof.
50. (previously added) The method of claim 45, wherein the chemical solution comprises a chemical selected from the group consisting of phosphoric acid, phosphates, sulfamic acid, oxalic acid, oxalates, sulfuric acid, sulfates, chromic acid, chromates, bicarbonate, fatty acids, fatty acid salts, and combinations thereof.

51. (previously added) The method of claim 50, wherein the chemical solution further comprises an activator or accelerator selected from the group consisting of zinc, magnesium, iron phosphates and combinations thereof.
52. (previously added) The method of claim 50, wherein the chemical solution further comprises an oxidizer, selected from the group consisting of inorganic oxidizer, organic oxidizer, peroxides, meta-nitrobenzene, chlorate, chlorite, persulfates, nitrate, nitrite compounds, and combinations thereof.
53. (previously added) The method of claim 50, wherein the chemical is provided as a concentrate, and is diluted with water to prepare the chemical solution, wherein the chemical is diluted to between 5-80% by volume of the solution.
54. (previously added) The method of claim 45, wherein the metal article comprises steel.
55. (previously added) The method of claim 54, wherein the chemical solution comprises oxalic acid.
56. (cancelled)
57. (previously added) The method of claim 54, wherein the chemical solution is introduced into the vibratory finishing apparatus at a rate of about 0.625 gallons per hour per cubic foot volume of the vibratory finishing apparatus.
58. (cancelled)
59. (previously added) The method of claim 45, wherein after the surface of the metal article has been refined, a burnishing solution is introduced into the vibratory finishing apparatus.
60. (cancelled)
61. (previously added) The method of claim 45, wherein the rate of blackmode formation and removal is balanced so that the blackmode is soft enough to allow the non-abrasive metal media to remove the blackmode from the surface of the metal article and finish the metal article to an Ra of less than or equal to 2.5 microinches.
62. (cancelled)